



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

clo

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,970	12/27/2001	Russell Dean Kosel	13DV-14061	2112

7590 04/05/2004

John S. Beulick
Armstrong Teasdale LLP
Suite 2600
One Metropolitan Sq.
St. Louis, MO 63102

EXAMINER

VERDIER, CHRISTOPHER M

ART UNIT PAPER NUMBER

3745

DATE MAILED: 04/05/2004

J

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,970

Applicant(s)

KOSEL ET AL.

Examiner

Christopher Verdier

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 7-9, 11, 12 and 16-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4-5-02, 2-18-04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Art Unit: 3745

Applicants' Amendment dated February 18, 2004 has been carefully considered but is deemed non-persuasive. Claims 1-20 are pending. The drawing objections set forth in the first Office action have been overcome by the replacement sheet for figure 4, which has been approved by the examiner. The claims and specification have been amended so that all claims have antecedent basis in the specification, with the exception of claim 17. The specification has been amended to correct the informalities set forth in the first Office action. Most of the claims have been amended to adopt the examiner's suggested claim language, with the exception of claim 8. The claims have been amended to correct the informalities and indefinite claim language set forth in the first Office action. Correction of the above matters is noted with appreciation.

With regard to the rejection of claims 1, 3-6, 10, and 13-15 under 35 U.S.C. 103(a) as being unpatentable over Meyers 4,993,918 in view of United Kingdom Patent 472,329, Applicants have argued that the rejection is not proper, that obviousness cannot be established by suggesting that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to replace the rivet of the strut of Meyers with a sleeve such that the sleeve is attached by drawing a mandrel through the sleeve to secure the sleeve to the sidewalls, that a prima facie case of obviousness has not been established, and that there must be some motivation, suggestion, or teaching of the desirability of making Applicant's specific combination. Applicants have further argued that hindsight reasoning has been used in the above rejection, that the rejection picks and chooses among isolated disclosures to arrive at the claimed invention, and that there is no reasonable expectation of success. These arguments are not

Art Unit: 3745

persuasive. The rejection set forth in the first Office action, and repeated below, clearly set forth the motivation for making the proposed combination of Meyers 4,993,918 in view of United Kingdom Patent 472,329. The first Office action explained that the reason for making the proposed combination of references and relying on the United Kingdom Patent 472,329 for its teaching that rivets may be formed as expandable sleeves, whereby two sidewalls f, g are joined to one another, via the sleeve a, which is radially expanded by drawing a mandrel e through the sleeve a to secure the sleeve to the sidewalls f, g, was for the purpose of providing strong shear resistance and providing a secure manner of attachment of the sidewalls together. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the primary reference to Meyers already discloses the combination of a strut shown generally at 33 and a first radially expandable stiffener (rivet) through the assembly opening 74 such that the sleeve extends between the first and second sidewalls, and with the stiffener being coupled to the first and second sidewalls 26, 28, the only difference being that the rivet is not in the form of an expandable sleeve. Rivets that are in the form of expandable sleeves are one type of rivet that is conventional and well known in the art. The primary reference to Meyers already discloses the combination of the strut and the first radially expandable stiffener (rivet). The motivation for combining the disclosure of United Kingdom Patent 472,329 is for the purpose of providing

Art Unit: 3745

strong shear resistance and providing a secure manner of attachment of the sidewalls together. The motivation to make the proposed combination is in the knowledge generally available to one of ordinary skill in the art, because rivets are well known to provide strong shear resistance and a secure manner of attachment of the sidewalls to one another. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The above rejection only takes into account knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, because as set forth above, rivets in the form of an expandable sleeve are well-known in the art, for the purpose of providing strong shear resistance and providing a secure manner of attachment of sidewalls together. With regard to Applicants' argument that the above rejection picks and chooses among isolated disclosures to arrive at the claimed invention, the examiner disagrees. Myers already teaches the combination of the strut and the first radially expandable stiffener. United Kingdom Patent 472,329 is merely relied upon to teach that rivets in the form of an expandable sleeve are well-known in the art, for the purpose of providing strong shear resistance and providing a secure manner of attachment of sidewalls together. Combining these two references to arrive at the claimed invention cannot be said to involve selectively picking and choosing among the references, because only the teachings of United Kingdom Patent

Art Unit: 3745

472,329 are applied to teach rivets in the form of expandable sleeves. With regard to Applicants' argument that there is no reasonable expectation of success, Applicants have not provided any explanation in support of this argument. There is a reasonable expectation of success in making the above combination of references, because replacing the rivet of Meyers with a well-known rivet in the form of a sleeve that is expandable, as taught by the United Kingdom Patent for the purpose of providing strong shear resistance and providing a secure manner of attachment of the sidewalls together, would be highly successful in providing a strong joint and a secure manner of attachment.

With regard to Applicants' argument that Meyers teaches away from the United Kingdom Patent because Meyers describes inserting plural rivets through openings formed in a pair of members, such that the members are coupled together so that a cavity remains defined between the members, while the United Kingdom Patent describes inserting a rivet through a sleeve assembly to couple together a pair of plates so that the plates are secured firmly against each other, these arguments are not persuasive. Meyers is the primary reference, which was modified by replacing the rivet of the strut of Meyers with a rivet in the form of a sleeve that is expandable, as taught by the United Kingdom Patent. The fact that the plates f, g of the United Kingdom Patent are coupled together does not preclude use of the teachings United Kingdom Patent, because one of ordinary skill in the art would recognize the general applicability and teachings of the United Kingdom Patent to any type of riveted joint, whether or not the members are separated to form a cavity, in the case of Meyers, or not.

With regard to the rejection of claim 2 under 35 U.S.C. 103(a) as being unpatentable over Meyers 4,993,918 and United Kingdom Patent 472,329 as applied to claim 1 above, and further in view of Gutnik 4,815,193, Applicants have argued that the rejection is not proper, that obviousness cannot be established by suggesting that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the strut/stiffener of Meyers such that it utilizes an alignment fixture as taught by Gutnik, that a prima facie case of obviousness has not been established, and that there must be some motivation, suggestion, or teaching of the desirability of making Applicant's specific combination. Applicants have further argued that hindsight reasoning has been used in the above rejection, and that the rejection picks and chooses among isolated disclosures to arrive at the claimed invention, and that there is no reasonable expectation of success. These arguments are not persuasive. The rejection set forth in the first Office action, and repeated below, clearly set forth the motivation for making the proposed combination of Meyers 4,993,918 and United Kingdom Patent 472,329 and Gutnik 4,815,193. The first Office action explained that the reason for making the proposed combination of references and relying on Gutnik for its teaching that an alignment fixture 16 may be used with sheets 10, 12, 14, which have a hole drilled therethrough, which are then riveted together, was for the purpose of ensuring that the holes are concentric. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596

Art Unit: 3745

(Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the modified primary reference to Meyers already discloses the combination of a strut shown generally at 33 and a first radially expandable stiffener (rivet) through the assembly opening 74, the only difference being that Meyers as modified does not show an alignment fixture to ensure that the first and second sidewall openings are concentrically aligned. The use of alignment fixtures to ensure that openings are aligned and concentric are conventional and well known in the art. The motivation for combining the disclosure of Gutnik is for the purpose of ensuring that the holes are concentric. The motivation to make the proposed combination is in the knowledge generally available to one of ordinary skill in the art, because the use of alignment fixtures to ensure that openings are aligned and concentric is conventional and well known in the art. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The above rejection only takes into account knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, because as set forth above, alignment fixtures to ensure that openings are aligned and concentric are well-known in the art, for the purpose of ensuring that the holes are concentric. With regard to Applicants' argument that the above rejection picks and chooses among isolated disclosures to arrive at the claimed

Art Unit: 3745

invention, the examiner disagrees, because Gutnik is merely relied upon to teach the use of an alignment fixture to ensure that the holes are concentric and aligned. Combining the teachings of Gutnik to arrive at the claimed invention cannot be said to involve selectively picking and choosing among the references, because only the teaching of Gutnik is relied upon to teach the use of an alignment fixture to ensure that the holes are concentric and aligned. With regard to Applicants' argument that there is no reasonable expectation of success, Applicants have not provided any explanation in support of this argument. There is a reasonable expectation of success in making the above combination of references, because using an alignment fixture to ensure that the openings are aligned and concentric, as taught by Gutnik, would be expected to be highly successful in aligning the holes together so that they are concentric.

With regard to Applicants' argument that Meyers teaches away from the United Kingdom Patent and Gutnik in that Meyers describes inserting plural rivets through openings formed in a pair of members, such that the members are coupled together so that a cavity remains defined between the members, while both the United Kingdom Patent and Gutnik describe inserting a rivet through a work piece assembly to couple together a pair of plates so that the plates are secured firmly against each other, these arguments are not persuasive. Meyers is the primary reference, which was modified by replacing the rivet of the strut of Meyers with a rivet in the form of a sleeve that is expandable, as taught by the United Kingdom Patent. The fact that the plates f, g of the United Kingdom Patent are coupled together does not preclude use of the teachings United Kingdom Patent, because one of ordinary skill in the art would recognize the general applicability and teachings of the United Kingdom Patent to any type of riveted joint,

Art Unit: 3745

whether or not the member are separated to form a cavity, in the case of Meyers, or not. The fact that the plates 10, 12, 14 of Gutnik are coupled together does not preclude use of the teachings of Gutnik, because one of ordinary skill in the art would recognize the general applicability and teachings of Gutnik to any type of riveted joint, whether or not the member are separated to form a cavity, in the case of Meyers, or not.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 17, which recites that the second sleeve diameter is approximately equal to the first sleeve diameter, with the second sleeve diameter being approximately equal to the diameter of the first and second sidewall openings, has no antecedent basis in the specification.

Examiner's Suggestions to Claim Language

The following are suggestions to improve the clarity and precision of the claims:

In claim 8, line 2, "a" may be changed to -- the --.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3745

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-6, 10, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyers 4,993,918 in view of United Kingdom Patent 472,329. Meyers discloses a method for installing an expandable stiffener (rivet), comprising providing an assembly 33 in the form of a strut and including a first sidewall 26 and a second sidewall 28, connected at a leading edge 38 and an unnumbered trailing edge such that a cavity (unnumbered, near 16) is defined therebetween, forming an opening 74 extending through the first and second sidewall, and inserting a first radially expandable stiffener (rivet) through the assembly opening such that the sleeve extends between the first and second sidewalls, and coupling the stiffener to the first and second sidewalls. The assembly is in the form of a strut for a gas turbine engine, and inherently increases fatigue life of the strut, by securely fastening the first and second sidewalls to one another, thereby preventing movement between the first and second sidewalls. However, the

Art Unit: 3745

stiffener (rivet), although radially expandable, is not a sleeve, but rather a rivet. In addition, Meyers does not disclose that radially expanding the stiffener comprises drawing a mandrel through the sleeve to secure the sleeve to the sidewalls, with the drawing comprising drawing the mandrel from a first end of the sleeve and through a second end of the sleeve, with the sleeve having a diameter approximately equal to the diameter of the assembly opening, and a second portion having a smaller diameter than the assembly diameter opening, with the sleeve being concentrically aligned with a second sleeve.

United Kingdom Patent 472,329 (figures 1-3) shows a rivet assembly, whereby two sidewalls f, g are joined to one another, via a sleeve a, which is radially expanded by drawing a mandrel e through the sleeve a to secure the sleeve to the sidewalls f, g, with the drawing comprising drawing the mandrel e from a first end h of the sleeve and through a second end b of the sleeve, with the sleeve having a diameter approximately equal to a diameter of an unnumbered assembly opening, and a second portion (the inside diameter of the end near h) having a smaller diameter than the assembly diameter opening, with the sleeve a being concentrically aligned with a second sleeve d, for the purpose of providing strong shear resistance and providing a secure manner of attachment of the sidewalls together.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to replace the rivet of the strut of Meyers with a sleeve such that the sleeve is attached by drawing a mandrel through the sleeve to secure the sleeve to the sidewalls, with the drawing comprising drawing the mandrel from a first end of the sleeve and through a

Art Unit: 3745

second end of the sleeve, with the sleeve having a diameter approximately equal to the diameter of the assembly opening, and a second portion having a smaller diameter than the assembly diameter opening, with the sleeve being concentrically aligned with a second sleeve, as taught by United Kingdom Patent 472,329, for the purpose of providing strong shear resistance and providing a secure manner of attachment of the sidewalls together.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meyers 4,993,918 and United Kingdom Patent 472,329 as applied to claim 1 above, and further in view of Gutnik 4,815,193. The modified strut/stiffener of Meyers shows all of the claimed subject matter except for using an alignment fixture to ensure that the first and second sidewall openings are concentrically aligned.

Gutnik shows an alignment fixture 16 which is used with sheets 10, 12, 14, which have a hole drilled therethrough, which are then riveted together, for the purpose of ensuring that the holes are concentric.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the modified strut/stiffener of Meyers such that it utilizes an alignment fixture for the assembly, as taught by Gutnik, for the purpose of ensuring that the holes through the sidewalls are concentric.

Allowable Subject Matter

Claims 7-9, 11-12, and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (703)-308-2638. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (703) 308-1044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.
April 2, 2004



Christopher Verdier
Primary Examiner
Art Unit 3745